

OPTIONS OF LEARNING PROCESS OF TEACHING SUBJECT INFORMATION SOCIETY

^aKATARÍNA SZARKA, ^bISTVÁN SZÓKÖL

J. Selye University, Bratislavská cesta 3322, 945 01 Komárno, Slovakia

email: ^aszarkak@ujss.sk, ^bszokoli@ujss.sk,

This research has been supported by the project titled KEGA No. 004UPJŠ-4/2020 "Creation, Implementation, and Verification of the Effectiveness of Digital Library with the Formative Assessment Tools for the Natural Sciences, Mathematics and Informatics at the Elementary School"

Abstract: Legitimizing of the tutoring outcome is different in several countries. Results of crude tutoring, in Slovak Republic is recognized with successful ending of the secondary school studies, high-school graduation, final exam, graduate exam and state examination. On European level there are no existing rules and regulation. Schools must to keep tempo with rapid improvement of technology, appraisal of social changes. They must to receive new form of teaching based on the results of appraisals about, how people learn, about effective usage of technology and skillfulness for 21st century. In the most countries of the world, its trend to create expectations for result of the schools work, we can say standards, which could be regularly controlled. From the most of products it's required to answer for predetermined standards, and these standards or norms are strictly controlled. In schools they don't do it. Nobody guaranteed, that the student of that school in which he learn the knowledge, skills, etc.

Keywords: different learning, teaching of module system, information society

1 Key competences, concept, definition

Currently, due to changes in Slovak Education we increasingly often meet with the concept of competencies, key competencies. We tend to speak about key competencies as a new phenomenon in education. The term originates from the 1970s in economics where it represented a set of specific requirements for the job seeker. It was transferred to the field of education in the late 90s where it serves as a bridge between the requirements imposed by employers in the labour market and the graduate's profile. The term competence is used both in professional and common language; and ability, skill, capability, effectiveness, capacity, desired quality, and others are used as synonyms for the group of terms. A person who has the abilities and skills, motivation, knowledge, etc. to carry out tasks well in a particular field is considered competent. Competence is usually applied to individuals, social groups, and institutions in case they successfully fulfill requirements and achieve goals set by their environment. The theory of key competencies has not yet been completely formulated and neither does a comprehensive and widely accepted definition exist. As Hrmo (2013) states in his publication *Key Competences*: "Competence is the behaviour (activity or set of activities), which characterizes excellent performance in a specific field. Key competences are the main competences of a set of competences. They are suitable to solve a wide range of mostly unforeseen problems which allow an individual to cope with rapid changes at work, personal and social life."

According to Hrmo (2013): „Key competences are a set of interiorized, interconnected group of acquired knowledge, skills, abilities, attitudes and valuing approaches, which are important for the qualitative personal development of the individual, his/her active participation in society, application in employment and lifelong learning.

Another definition states: "Having competence means having a complex equipment of personality, which allows the individual to successfully address challenges and situations in life, in which one is able to adequately orient, take appropriate actions and take a beneficial attitude. Key competences need to allow the individual to continuously refresh the skills and knowledge applicable in everyday life. For a person in training not all educational activities (cognitive, training, and educative) need to be beneficial, but especially those, which are useful in standard practice, provide quality education and correspond with company requirements in the labour market. Not only the attended educative process or certificate of the attended educative process are crucial, but also the learning outcomes.

2 Areas of key competences

Education in each field should be directed toward each individual creating the following key competences consistent with their levels and scholastic aptitude (Horváthová, 2011):

- Informational
- Learning
- Cognitive
- Interpersonal
- Communicative
- Personal

2.1 Informational competences

Information technologies are key elements in building the modern society based on knowledge. Information competences are mainly ICT literacy and digital literacy.

However, ICT literacy and digital literacy are conceptualised in different ways. The term digital literacy is generally used in relation to a wider range of technologies than ICT literacy, but the terms largely overlap and it is common that they are interchanged. None of them focuses on technical aspects of the field, such as programming and computer operations. Rather, they have focus on the use of ICT and digital devices in different ways.

ICT literacy may be explicitly defined as the ability to locate, evaluate and use information in a way that makes a person an independent, lifelong learning individual; as the ability to locate, evaluate, use and communicate information in various forms, such as the integration of written, computer, media and technological literacy, ethics, critical thinking and communication skills (Fehér, 2018).

Digital literacy may be viewed as the ability to address problems, which means to educate and expand the following skills:

- distinguish essential phenomena from non-essential,
- navigate in information and evaluate them,
- provide the necessary information,
- choose (evaluate) and use appropriate methods, concatenate or combine various methods to solve problems, or adapt or propose a new method, which solves a professional problem,
- express facts and their phenomena mathematically,
- carry out calculations,
- use outcomes – solve a problem.

Such worded computer literacy, or information literacy is not the content of only a chosen group of subjects, which contain the expressions "computer technology and information technology" in their names, but all the subjects as a whole, the problems of which will be solved, while apart from the mechanics of using computers, the emphasis is on the thinking process, evaluation, decision, optimizing and realization (Brestenská, 2019).

The model of securing ICT competences – future teachers will have compiled a lesson plan on the basis of test results – as recommendation which modules they should attend, and identify them task to be carried out independently. Test results also determine which thematic areas (teaching units) how many times repeat. The student (future teacher) based on requirements and self-awareness may develop his own, individual study plan. If s/he does not accept this responsibility, the teacher – based on the outcomes of the entry tests – can propose an optimal study plan, which the student can, but does not necessarily have to respect. The tasks are defined in a way that prepares the learner to successfully pass the tests.

2.2 Learning, cognitive and interpersonal competences

The development of learning competences mainly supports the knowledge of learning styles, which sum up preferred practices of teaching and learning in a particular period of life of an individual, who develops, changes and improves from basics individually. Learning competences involve readiness to learn as well as to teach, motivation, a deep approach of learning, and the whole process of learning (Páleníková, K. – Jenisová, Z., 2017). Cognitive competences involve critical and creative thinking, problem-solving. Problem-solving is closely linked to the ability of critical and creative thinking. As a result, we can avoid many and more unnecessary errors while thinking.

Interpersonal competence means the effective coexistence and cooperation, where you need:

- ability to work in a team (group) – cooperation (joint responsibility of the planning, organizing, operating, and evaluating a team; development of leadership and management skills),
- empathy (empathizing with the emotional state and situation of other people)
- solving conflicts through peaceful means – assertiveness to enforce the rights, needs, and interests (not being a passive and manipulative object),
- creating and maintaining harmonic and progressive interpersonal relationships (respecting the ethics of proper manners, responsibility, and morality in terms of good relations with other people, mutual understanding and helping others),
- creating intercultural systems based on constructive negotiations, compromises, tolerance, and pluralism (acceptance and recognition of the difference in human views, opinions, values, faith, ethnic origins, various cultures, different areas of expertise, and thus the ability to live in an alien environment – as a manifestation of ethical conduct),
- developing the democratic civil system, respecting human rights and basic freedom, peacekeeping (effort not to fight and rule over others), keeping a healthy environment.

2.3 Communicative and personal competences

The basis of communicative competences is expressing adequately to the situation in writing and speech, listen carefully, and read with comprehension. The EU requires everyone, who lives in the countries of the European Union the knowledge of two foreign languages.

Personal qualities of individuals should promote the effective functioning of the society by coexistence and cooperation, develop authentic personal and work life. Personal competences involve self-awareness, self-control, as well as self-motivation and commitment.

3 Teachers' competences

There are several different views on the classification of key competences Belz-Siegrist (2001).

According to the above mentioned key competences were formed the competences of teacher mentioned in many studies (Caena, 2011). The main field of teacher competences are:

- Professional: the teacher as a guarantor of scientific bases, subjects of his/her own approbation,
- Psycho didactic: the teacher as an individual, creating pleasant conditions for learning
- Communicative: the teacher as an individual, using an appropriate level of verbal and non-verbal communication with students, parents and colleagues,
- Diagnostic: the teacher is able to diagnose problems of students,
- Planning and organizational: the teacher is able to plan his/her actions,

- Advisory and consultative: the teacher is able to help and advise the parents of his/her own students,
- Self-reflexive: the teacher is able to evaluate and modify his/her own educational activity.

Apart from the mentioned competences some countries also develop cultural awareness, labour and business competences, and health education. Due to their small representation in studied foreign systems, these systems are not dealt with any closer in this paper.

4 Quality of education

In the field of education, quality may be understood as a normative category, which may be expressed by the following indicators: quality of educational processes, educational institutions, the educational system is functioning (optimally) / or the production of these processes and institutions. It can be prescribed to certain conditions (e.g. educational standards), and therefore be objectively measured and evaluated (Benedek, 2015).

Factors determining the quality of education

- The curriculum
- Teaching methods, procedures, and means implemented in the educational process,
- Forms of knowledge verification,
- The independent creative activities of students and their involvement in research,
- Internationalization of education,
- Personal, spatial and informational assurance of the educational process,
- Securing the study literature for subjects of the study, and more.

Using the concepts of quality and efficiency are indeed very frequent, but often, without a clearer definition. Especially with the introduction of globalization, the concept of quality occurs in virtually all areas of human activities, including education. Education is a service provided by an educational institution. Firstly, it is important to note to whom this service is intended and what its purpose is. Furthermore it is imperative to understand that learning cannot be assumed clearly as an economic standpoint. The level – quality of education may be evaluated, but more subjectively, qualitatively than objectively and measurably, continuously and long term. The specifics of higher education is its 'optional nature (Szókö, 2016)'.

In education the term quality (quality management) refers to several elements, mostly to:

- The educational system: the basis is the quality of the country's (region's) educational system, its goals, philosophy, educational content, the structure of the educational system, principles of management and financing of education, incorporation of children, youths, and adults into the educational system, the ability to achieve the qualification, flexibility, and openness of the educational system. To increase the quality of the educational system in a certain country, international comparability of its performance is needed through international surveys, such as PISA, TIMISS and so on.
- School (school facility): We explained above that the degree of quality (decrease in population – struggle for students, funding per pupil, etc.) is the key to the survival (existence) of schools. Each school ought to develop its own quality management system, which would apply to all proceedings pending at the school and would include all school staff as well.
- Teaching process: The teaching process is the most important of all processes at school and therefore its quality is a crucial element for the quality of schools. The quality of the teaching process in the subjects they teach can also increase the individual teacher (group of teachers)

if the school has still not implemented quality management.

- Learning of pupils and students: The quality of learning of pupils and students is the culmination of efforts to increase the quality of education. The aim should be to make pupils, students acquire rational ways of learning - learning competences, to be aware of their preferred learning style and implement it, as well as metacognition and also metalearning to implement an in-depth approach to learning. The result should be a strategically focused student, someone, who wants to take responsibility for managing their learning, which is learned, and can manage their own learning, which is able to optimize their learning in school, out of school and after their school era. Such pupils and students have the greatest chances of success in the current, constantly and rapidly changing world, because they will be more successful in lifelong learning (Horváthová, 2011).

5 The concept of the information society

Information society from the point of view of an ordinary person is a society where the work with information is an everyday activity. Some different information and communication technologies (ICT) are used to work with information that means the methods, procedures and means such as a computer, electronic diary, mobile phone and so on.

From a social point of view, the information society is a society in which informatics and information and communication technologies are becoming an economic force, identifying and transforming the entire social system and acting as a means of creating new social, supra-class and supranational structures fundamentally altering the mechanisms of social development.

Challenges of the information society and further directions of development have been the subject of a number of papers at the international and national level. The following ones have an important role within the frame of documents of national character:

- Policy of Informatizing Society in the Slovak Republic for the years 2012 - 2015 with a view to 2020.
- National Action Programme of Society Informatization
- Millennium - National Programme of Education in the Slovak Republic for the next 15 to 20 years (10-13)

The main benefits of the information society are:

- making available the usage of information sources and their tools by the general public,
- expansion and improvement of means of services and entertainment,
- promotion of education,
- new opportunities for the application of human creative abilities, as well as the employing of handicapped people in life through "teleworking"
- increasing of cultural traditions and identity of regions,
- more efficient state administration,
- more effective management of enterprises, improving competitiveness, facilitating of connection between the manufacturer, service provider and the customers themselves,
- new services in the telecommunications and new markets in the field of software,
- more effective health care.

Information Society was firstly taught at the J. Selye University in winter semester of the academic year 2019/2020. Since the subject of Information Society was not included in the accredited programs, the content of the course was divided into several subjects.

The most of the topics were included in the basic subject of Information and Communication Technologies, taught in the first years of education at the Faculty of Economics of the Janos

Selye University. Part of the topics appears in the continuing subject of Information and Communication Technologies II. The subject of Informatics is taught only one semester at the Faculty of Economics so only four modules of Information Society are taught by means of presentations. Individual modules were evaluated on the basis of tests, which had to be passed by all the students as the procedure within the exam. Tests were carried out in the LMS environment of Moodle, where the teacher could exactly evaluate the different parts and process the percentage of success.

Thematic unit on e-learning has found its place in the subject Didactics of Informatics, which is an organic part of the Master Teacher Training program. Thematic unit on legal standards of information society forms a part of the subject called Law and Ethics in the Use of Information and Communication Technologies.

5.1 Course: Developing information literacy

From our previous experience of working with students and execution of subjects in the first years, it shows that students come to college with ever-improving skills of ICT. Not always, however, are these skills sufficiently comprehensive and are usually associated only with general information literacy. Our aim is to develop these skills in students and shape subject information literacy.

The course will take the form of e-learning as part of the subject Information Society. Since we believe it is necessary to convey the students the following information as soon as possible we have chosen Information Society as a reference subject, due to its concentration on first-year students on the Faculty of Education.

The course is made up of five modules, each of them containing two chapters. Modules that are used as a proposal for teaching e-learning courses have specifically defined instructions for studying, introduction, module objectives, content and performance standards, instructional text, summary, auto-test, additional literature, conclusions, and bibliographical references (Szököl, 2010).

- Module 1
 - a. The main concepts of Information technologies
 - b. Using the computer and managing files
- Module 2
 - a. Text processing (Word processor)
 - b. Spreadsheet Calculator (Spreadsheet program)
- Module 3
 - a. Electronic presentation
 - b. Information and communication
- Module 4
 - a. Graphic editor application
 - b. Database system
- Module 5
 - a. Information society
 - b. Algorithms and algorithmization.

Individual modules are completed with a self-test summarizing the discussed curriculum. After the successful completion of this test, students will be able to advance to the next module. At any time-frame of the program, students will be able to use electronic consultations (Szököl, 2010).

The study support of each module is divided and structured so that the acquisition of knowledge and the creation of knowledge by the study participants work with maximum efficiency. Efficiency lies mainly in the fact that the study participants can fully engage in the study of the educational content because it is not constrained by directed learning, as the study text includes features allowing rapid and accurate auto-regulation. Participants in the study, after applying for the subject (course) receive the study materials.

6 Results and Discussion

The questionnaire included four teacher competences that are closely related to internationalization of education:

Communication in foreign languages, digital competence, interaction skills, and cooperative skills. The averages for each listed competence were calculated from the questionnaire. We can conclude that none of the listed competences reached worse than 3 points average – this means that the respondents consider them at least as important or higher.

Communication in foreign languages is based on the ability to understand, express, and interpret concepts, thoughts, feelings, facts, and opinions in both oral and written form in an appropriate range of societal and cultural contexts (in education and training, work, home, and leisure) according to needs. Competence in foreign languages requires knowledge of vocabulary and functional grammar and an awareness of the main types of verbal interaction and registers of language. Knowledge of societal conventions and the cultural aspect and variability of languages is important. Essential skills for communication in foreign languages consist of the ability to understand spoken messages, to initiate, sustain and conclude conversations and to read, understand and produce texts appropriate to the individual's needs. A positive attitude involves the appreciation of cultural diversity, and an interest and curiosity in languages and intercultural communication European Communities (2007).

Digital literacy involves the ability of confident and critical use of IST (Information Society Technology) for work, leisure and communication. It is underpinned by basic skills in ICT: the use of computers to retrieve, assess, store, produce, present, and exchange information, and to communicate and participate in collaborative networks via the Internet European Communities (2007). *Digital literacy* is closely linked with technology skills. The use of ICT in teaching is also a certain technological process. This includes a variety of technical devices used alone or in combination with other teaching aids. Using ICT can be easily and quickly connect with people from abroad, and so consult with experts or obtain new information to learn. However, the information is mostly not available in national language.

Interaction skills are a part of interpersonal skills. Interpersonal interaction is a communication process that involves the exchange of information, feelings and meaning by means of verbal and non-verbal messages, between two or more persons (teacher and children, or teacher and others). Children learn and develop by interacting with teachers, each other, family and other persons. Adults who are respectful listeners and keen observers, who are prepared to negotiate, who change their practice, and who make meaning with children are those who are most responsive to them. They know the children well, are sensitive to their current level of understanding, know their interests and intentions, and pitch activities and experiences which are just beyond what they can currently do and understand so that they can extend their learning. Their interactions promote children's learning and development and help children to reach their full potential (Ugrai, 2020).

Cooperative skills are a skill-set everyone needs to be able to cooperate effectively – i.e. work with others in a collective, non-hierarchical, democratically managed organizational structure. The cooperating teacher has the greatest and longest-lasting influence on not only the student teaching experience but also the aspiring teacher's growth and development long after student teaching has ended (Benedek, 2015).

In our research of all monitored key competences, teacher competences, skills, knowledge and other attitudes *communication in the mother tongue* reached the highest preference. Similarly, it was ranked first in the competence survey provided by Szököl (2016) conducted by practicing

teachers in Hungary. Overall, we found that our results and results by Szököl (2016) in terms of the most preferred teaching competences are very similar.

Only three competences reached the average value of 4.5 points: *communication in the mother tongue, ability to take responsibility and expertise.* Similarly, *interaction skills and cooperative skills* got high scores in our questionnaire as well (Tab. 1).

However, the lowest value (3.21 points) in our survey was achieved by *mathematical competence and basic competences in science and technology* – despite the fact that this competence also belongs to key competences. Although the preference for *digital competence* is higher than *mathematical competence and basic competences in science and technology*, but it is also very low, on the 33rd place in the ranking of all forty observed key competences, teacher competences, skills, knowledge and other attitudes. In the list of eighteen competences published by Bendíková (2014) *digital competence* is ranked in 16th place with 3.65 points.

Basic statistical evaluation of four selected teacher competences of the research is presented in Table 1.

Tab. 1: Statistics on four selected teacher competences

Key competences, teacher competences	Maximum	Minimum	Range	Modus	Mean	Variance	Standard deviation	Median
Communication in foreign languages	5	2	3	4	3.73	0.70	0.84	4.00
Digital competence	5	2	3	3	3.56	0.62	0.79	3.50
Interaction skills	5	2	3	5	4.41	0.52	0.72	5.00
Cooperative skills	5	2	3	5	4.31	0.54	0.73	4.00
Sample size: 4	5	2	3	4.25	4.01	0.59	0.77	4.10

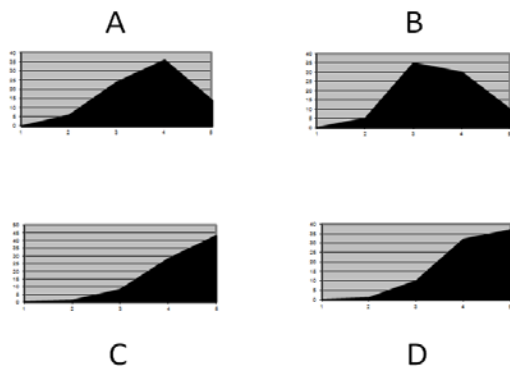
Tab. 2: Statistics of observed forty teacher competences

Key competences, teacher competences	Maximum	Minimum	Range	Modus	Mean	Variance	Standard deviation	Median
Sample size: 40	4.58	3.21	1.37	4.20	3.90	.14	.37	3.86

Tab. 3: Preference of four selected teacher competences

Key competences, teacher competences	Answers				
	1 Unnecessary %	2 Less necessary %	3 Important %	4 Very important %	5 Indispensable %
Communication in foreign languages	0.00	7.50	30.00	45.00	17.50
Digital competence	0.00	6.25	43.75	37.50	12.50
Interaction skills	0.00	1.25	10.00	35.00	53.75
Cooperative skills	0.00	1.25	12.50	40.00	46.25

Table 3 shows the distribution of response preferences of the four selected teacher competences and Chart 1 shows their histograms. According to the histogram is clear that the low average values are determined by the lower preference of high score responses – that means, the end of the A and B graph curve falls (on Chart 1) – in comparison with the graph, in which the curve clearly rises, for example in case of C and D (on Chart 1) or *communicating in mother tongue* (7).



A – Communication in foreign languages, B – Digital competence, C – Interaction skills, D – Cooperative skills

The reasons why should occur internationalization and modernization of teacher training programmes: students obtain updated information and knowledge and not are burdened with data and knowledge not essential to their future life. Graduates succeed in today's world and be competitive in the labour market; are not only educated, but also are confident and independent; become able to work creatively, solve unforeseen situations but also to cooperate with others regardless of whether it is a fellow citizen or foreign.

5 Conclusion

Knowledge is only the basis of preferred core competencies of the individual and may not be sufficiently beneficial for individuals, even if they were associated with other components of competences. Acquiring key competencies is a life-long process. In order for these competencies to be developed qualitatively, we need to achieve a quality education system.

In applying for an e-learning course the process of initial motivation, the evaluation and classification of individual modules, and the process of exposure of the new curriculum are bound to be dealt with.

For teachers to lead their students to the use of the internet in the learning process, they need to gain ICT and digital literacy, which means that they will get to know, understand and be able to explain the basic concepts of ICT and digital technologies, able to use a computer and digital devices, work with data sets, with text, create and work with tables, charts, figures, create and work with databases, create presentations, obtain and share information and communicate, to operate with the internet, handle the e-mails, create web pages, blogs/vlogs etc.

Literature:

1. Belz, H., Siegrist, M.: *Klíčové kompetence a jejich rozvíjení*. Praha: Portál, 2001. 375 p.
2. Bendíková, E.: Lifestyle, physical and sports education and health benefits of physical activity. In *European researcher: international multidisciplinary journal*. Sochi: Academic publishing house Researcher, 2014. Vol. 69, Issue 2-2, pp. 343-348. ISSN 2219-8229.
3. Benedek, A.: *Visuality as a tool for expanding learning*. In: Teixeira, A.M., Szűcs, A. & I. Mázár (eds.), 2015 Annual Conference. Barcelona: European Distance and E-Learning Network (EDEN), 2015. pp. 3-8. ISBN 978-615-5511-03-5.
4. Bilčík, A.: *Podpora záujmu žiakov a ich spokojnosti s vyučováním na stredných školách*. In: Berková, K., Krpálková Krellová, K. (eds.). SCHOLA NOVA, QUO VADIS? Reviewed Papers of the 3rd International Scientific Conference. Praha: Extrasystem Praha, 2018. pp. 31-36. ISBN 978-80-87570-40-1.
5. Brestenská, B. et al.: Teacher Trainees' attitude towards the implementation of selected web-based applications in teacher training. In *CBU International Conference Proceedings 7*, pp. 387-392, 2019. DOI:https://doi.org/10.12955/cbup.v7.1389

6. Caena, F.: Literature review Teachers' core competences: requirements and development. *European Commission Thematic Working Group 'Professional Development of Teachers'*, 2011.
7. Fehér, Z.: Digitálne kompetencie študentov - štatistická analýza prieskumu. In: *Inovácie v pregraduálnej príprave učiteľov s využitím webových aplikácií*. Komárom: KOMPRESS Nyomdaipari Kft., 2018. pp. 13-32. [print]. ISBN 978-615-00-2597-1.
8. Golnhofer, E.: *Pedagógiai értékelés*. In Falus, I. (eds.) *Didaktika*. Budapest: Nemzeti Tankönyvkiadó, 2003. pp. 385-417. ISBN 978-963-19-5296-4.
9. Horváthová, K.- Szökö, I.: *Kontrola a hodnotenie žiackych výkonov v národnostných školách na Slovensku*. Monographiae Comaromienses 9. Komárno: Univerzita J. Selyeho, 2013. 120 p. ISBN 978-80-8122-083-8.
10. Horváthová, K.: Súčasný požiadavky na proces riadenia škôl a prípravu školských manažérov v Slovenskej republike. In: *Otázky koncepcie prípravy riadiacich zamestnancov škôl*. Nitra: PF UKF Nitra, 2011. pp. 9-47. ISBN 978-80-558-0001-1.
11. Hradzilová Bočková, K. - Gabrheľová, G. - Porubčanová, D.: *Game Theory as a Tool of Conflict and Cooperation Solution between Intelligent Rational Decision-makers in Project Management*. In: *International Journal of Economic Perspectives*. Vol. 10, Issue 4, 2016, pp. 147-156. ISSN 1307-1637.
12. Hrmo, R. - Podaril, M.: *Introduction of Quality Management Systém for Vocational Education and Training in Slovakia* (e-document). DOI 10.3991/ijep.v3i3.2733. In: *International Journal of Engineering Pedagogy*. Wien: International Association of Online Engineering, 2013, Vol. 3, Issue 3, pp. 18-23 (online) ISSN 2192-4880.
13. Kolar, Z., Vališová, A.: *Analýza vyučování*. Praha: Grada Publishing, 2009. 232 p. ISBN 978-80-247-2857-5.
14. Kostrub, D.: *Dieťa/žiak/student – učivo – učiteľ, didaktický alebo bermudský trojuholník?* Prešov: Rokus, 2008. 169 p. ISBN 978-80-89055-87-6.
15. Krellová, K. - Vašková, E.: *How to increase efficiency of technical education*. In *CO-MAT-TECH 2003*. Bratislava: STU, 2003. ISBN 80-227-1949-8.
16. Marks, I. - Lajčín, D.: *Anton Štefánek a slovenské školstvo v medzivojnovom období – vybrané problémy*. Brno: Tribun EU, 2017. 119 p. ISBN 978-80-263-1362-5.
17. Marks, I. - Lajčín, D.: *Moderná škola v ponímaní Antona Štefánka*. In *Paidagogos: časopis pro pedagogiku v súvislostech*, 2016, No. 2, pp. 125 – 140. ISSN 1213-3809.
18. Nagy, M. et al.: *Elsőéves hallgatók véleménye a tanári kompetenciákról körében. Új kihívások és pedagógiai innovációk a szakképzésben és a felsőoktatásban*, A VIII. Trefort Ágoston Szakképzés- és Felsőoktatás-pedagógiai Konferencia tanulmánykötete, 2018. pp. 56-65. ISBN 978-963-449-148-4.
19. Páleníková, K. - Jenisová, Z.: Differences in characteristics of an actual teacher and the vision of an ideal teacher from in-service teachers' point of view (perspective) In: *10th Annual International Conference of Education, Research and Innovation (ICERI) Book Series: ICERI Proceedings*, 2017. pp. 2115-2124. ISBN: 978-84-697-6957-7.
20. Porubčanová, D.: *Analýza roli profesie vysokoškolského učiteľa* In: *Vzdelávání dospělých 2017 – v době rezonujících společenských změn: proceedings of the 7th International Adult Education Conference*. Praha: Česká andragogická společnost, 2018. pp. 245-255 [print] ISBN 978-80-906894-2-8.
21. Porubská, G.: *Aktuálne problémy slovného hodnotenia na 2. stupni ZŠ*. In: *Slovné hodnotenie na druhom stupni základných škôl: Zborník príspevkov z vedeckej konferencie* Nitra: UKF, 2000. pp. 101-108. ISBN 80-8050-320-6.
22. Prucha, J.: *Moderní pedagogika*. Praha: Portál, 1997. 480 p. ISBN 80-7178-170-3.
23. Szarka, K.: *Súčasný trendy školského hodnotenia: Koncepcia rozvíjajúceho hodnotenia*. 1. vyd. Komárom: Kompres, 2017. 147 p. ISBN 978-963-12-9692-1.
24. Szökö, I.: *Educational evaluation in contemporary schools*. Szeged: Belvedere Meridionale, 2016. 159 p. ISBN 978-615-5372-60-5.
25. Szökö, Š.: *Modulárny systém výučby informatiky*. Komárno: Univerzita J. Selyeho 2010. 100 p. ISBN 978-80-89234-97-4.
26. Škoda, J., Doulík, P.: *Psychodidaktika*. Praha: Grada. 2011. 178 p. ISBN 978-80-247-3341-8.

27. Tóth-Bakos, A. et al.: Webové aplikácie v príprave budúcich učiteľov – hodnotenie ich didaktických aspektov. In *Medzinárodná vedecká konferencia UJS: „Hodnota, kvalita a konkurencioschopnosť-výzvy 21. storočia“*. Komárno: Univerzita J. Selyeho, 2017, pp. 107-119. ISBN 978-80-8122-221-4.
28. Ugrai, J.: *The Highs and Lows of Reform. The Divergent Development of Public Education and Teacher Training in Hungary*. In: *Foro de Educación*, 2016. Vol. 14. Issue 21. pp. 39-57.
29. Vass, V.: *Creative School: Renewing Leadership for Creativity*. In: Marek, T. et al. (eds.): *Human Factors of a Global Society: A System of Systems Perspective. Education in Modern Society*. CRC Press, Taylor and Francis Group. Florida, US. 2015. pp. 969-974.

Primary Paper Section: A

Secondary Paper Section: AM